REMARKS

Claims 1 and 4-24 remain pending in the present application. The claims stand finally rejected.

Request to Withdraw Final Rejection

Initially, Applicant notes that the Examiner has made a plethora of new rejections over newly-cited prior art, with a number of new contentions, but made the new rejections final in view of Applicant's amendment in the previous response. Applicant respectfully requests reconsideration and withdrawal of the final rejection.

Applicant's amendment in the previous response consisted of deleting the word "continuous" in claims 1 and 14, pursuant to a rejection under 35 U.S.C. §112, first paragraph in the previous Office Action; and modifying the maximum pore size set forth in claim 12 from 23 microns down to 12 microns. Applicant fails to see how either amendment could raise new issues to support a new ground of rejection by the Examiner.

The word "continuous" was initially added to help distinguish over the Zucker reference. But the Zucker reference has never been withdrawn, regardless of the presence or absence of the word "continuous" in the claims. Clearly, deletion of the word "continuous" had no effect on the relevance of the prior art, and therefore raised no new issues.

As to the reduction in the pore size in claim 12, the new base reference to Doshi fails to disclose any particular pore size, as evidenced by the Examiner's statements at page 4, first paragraph of the outstanding Office Action. Likewise, the Examiner still contends that the Zucker reference is sufficient to suggest the newly claimed pore size, in spite of Zucker's failure to actually disclose a pore size (Office Action, page 7, last paragraph). Clearly, the newly cited Doshi reference is no better or worse than the Zucker reference regarding pore size, and Applicant's amendment of claim 12 did not raise a new issue necessitating a new ground of rejection.

Withdrawal of the finality of the outstanding Office Action is requested.

Declaration of Michael A. Bryner

Applicant submits herewith his declaration under 37 C.F.R. 1.132 (hereinafter the "Bryner Declaration") for the Examiner's review and consideration.

Rejection under 35 U.S.C. §102(a)/103(a) over Doshi

Claims 1, 4-7, 12-14, 16, 23 and 24 stand rejected under 35 U.S.C. §102(a)/103(a) as anticipated by, or in the alternative, obvious over Doshi. Applicant traverses this basis for rejection and respectfully requests reconsideration and withdrawal thereof.

Lack of Anticipation

Doshi discloses nanofiber based nonwoven composites, their properties and applications (title), including composites of nylon-6,6 nanofiber webs deposited-on and point bonded-to both meltblown and spunbond webs (page 2, "Experimental"). Doshi discloses an 8 g/m^2 nanofiber layer added to a meltblown substrate and a 17 g/m^2 nanofiber layer added to a spunbond substrate (page 4, Table 1; derived by subtraction); that the meltblown composite has an air permeability of 1.67 cfm (0.5 m^3/m^2-min) and a hydrohead of 14.5 mbar (14.8 cm); and that the spunbond composite has an air permeability of 0.74 cfm (0.225 m^3/m^2-min) and a hydrohead of 15.0 mbar (15.3 cm) (Doshi, page 5, Table 2; see Doshi at page 4, top for conversion of mbar to cm wc).

At page 3 of the outstanding Office Action, the Examiner states:

> Although Doshi does not appear to explicitly teach the claimed hydrohead value or Frazier permeability, it is reasonable to presume that said limitations are inherent to the invention.

However, as discussed above and in Table 2, Doshi does explicitly teach hydrohead and air permeability values, which are clearly outside the scope of the present claims. Inherency is not only not certain, it is entirely absent! Neither Doshi composite fabric meets the limitations of claims 1 or 14 as to hydrostatic head. Doshi therefore cannot be said to anticipate the present claims.

Lack of Obviousness

Also at page 3 of the outstanding Office Action, the Examiner contends, presumably to support the obviousness rejection over Doshi, that:

> the claimed limitations are readily obtainable through routine experimentation with variables such as fiber material, fiber diameter, basis weight, solids fraction, maximum pore size and because it is understood by one of ordinary skill in the art that discovering an optimum value of a result effective variable involves only routine skill in the art. It is noted that Doshi specifically teaches that the material is made in order to create a barrier layer with improved hydrohead. (Emphasis added).

1. Non-Analogous Art

Actually, Doshi entirely fails to teach that the material is made to create a barrier layer with improved hydrohead. Instead, Doshi discloses that the composite materials were developed in an effort to improve filtration efficiency as to fine particles in gases (page 1, paragraph 3). Those skilled in the art know that hydrohead is all but immaterial to gas filtration (see the Bryner Declaration at paragraph 7).

2. Teaching Away

Further, at page 4, last paragraph, Doshi states:

> Air permeability of the fabrics' decreases with the incorporation of nanofibers, and the decrease is more in the case of spunbonded composites due to the greater amount of nanofibers. For the meltblown webs, the air permeability is low compared to the

> spunbonded web due to the dense web structure and small fibers. Fabric resistance to the water penetration was not decreased as was expected with the incorporation of a nanofiber web. (Emphasis added).

Doshi clearly teaches quite the opposite from the Examiner's contention, i.e. that hydrohead does not increase with addition of nanofibers.

Those of skill in the art would have been led away from depositing nanofibers onto a substrate in order to increase hydrohead, in view of Doshi's quoted statement, above; and Doshi is essentially unconcerned about hydrohead, being directed to filters.

3. Lack of "Inherency" of Claim Limitations in Doshi

As quoted above, the Examiner asserts that the claimed values of hydrohead and Frazier would inherently be present in Doshi's disclosed "invention".

> Although Doshi does not appear to explicitly teach the claimed hydrohead value or Frazier permeability, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. nylon nanofiber barrier layer) and in the similar production steps (i.e. bonding to a substrate layer) used to produce the nonwoven fabric. The burden is upon the applicant to prove otherwise. (Office Action, page 3, second paragraph; emphasis added).

On this matter, the Doshi disclosure itself disproves the Examiner's contention. Doshi clearly discloses hydrohead values (14.5 and 15.0 mbar--Table 2) which are far outside the range of the present claims; in fact almost ten times lower than the present claims. Applicant is at a loss to understand how the Examiner can ignore the clear teachings and actual data of Doshi and still assert "inherency" of the present claim limitations therein.

4. Optimization of Variables

The Examiner further asserts that it would have been obvious for the skilled artisan to obtain fabrics having the presently claimed limitations by "routine experimentation" with certain variables disclosed in Doshi.

> [T]he claimed limitations are readily obtainable through routine experimentation with variables such as fiber material, fiber diameter, basis weight, solids fraction, maximum pore size and because it is understood by one of ordinary skill in the art that discovering an optimum value of a result effective variable involves only routine skill in the art. It is noted that Doshi specifically teaches that the material is made in order to create a barrier layer with improved hydrohead. (Office Action, page 3, second paragraph; emphasis added).

As is explained above, the final sentence of this passage is entirely incorrect. Doshi does not teach or suggest improving hydrohead by depositing nanofibers onto a substrate. To the extent that this statement is the only reason for the Examiner's contention that it would have been obvious to optimize the alleged Doshi variables, the Examiner's logic is flawed.

There is no reason derivable from Doshi to further experiment with the variables set forth by the Examiner, quoted-above, in an effort to increase hydrohead. Withdrawal of the rejection is requested for this reason alone.

Recent case law discussing the obviousness of varying prior art parameters in order to achieve the claimed invention indicates that the skilled artisan would need to have a "reasonable expectation of success" in making those modifications, as well as direction from the prior art with respect to which parameters to vary.

> [T]o have a reasonable expectation of success, one must be motivated to do more than merely to "vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful." Medichem v. Rolabo,

437 F.3d 1157, 77 USPQ2d 1865 (Fed. Cir. 2006); (internal citations omitted, emphasis added).

Clearly, as discussed above, Doshi teaches away from any expectation of success in achieving increased hydrostatic heads by the mere deposition of nanofibers onto a substrate.

As to the specific "results effective variables" that the Examiner alleges would have been obvious to vary from the Doshi disclosure: (1) Doshi never suggests using any polymer other than Nylon-6,6; (2) Doshi fails to disclose or suggest any manner of varying fiber diameters; (3) Doshi actually discloses doubling nanoweb basis weight, but fails to increase hydrohead; and (4) Doshi discloses depositing nanowebs onto substrates having different maximum pore sizes (spunbond and meltblown substrates), without success in increasing hydrohead. (From the evidence in Doshi, the skilled artisan could not conclude that either basis weight or maximum pore size are "results effective variables").

In contrast to the requirements set forth in Medichem, *Id.*, Doshi fails to even identify which "variables" are critical, let alone how to make successful modifications to same.

The Examiner's attention is further directed to the discussion of "Routine Optimization" in the Bryner Declaration at sections 9.3 and 9.4. Dr. Bryner makes clear that without the guidance provided by the present specification/model; one of ordinary skill in the art would be faced with as many as 2187 possible variations (Bryner Declaration at 9.4(c)) to test in order to optimize the Doshi reference teachings. In paragraph 9.4(d), Dr. Bryner indicates that just conducting the 100 or so experiments necessary to demonstrate the veracity of the models in the present specification required as much as 1000 man hours of work (approx. 10 man hours/test). Simple multiplication of the number of possible variations/tests in 9.4(c) with the number of man hours per test described in 9.4(d), would result in well-over 21,000 man hours of testing necessary for one of ordinary skill in the art to "optimize" Doshi.

Applicant respectfully submits that such an overwhelming amount of testing represents undue experimentation, and is far beyond the "obvious to try" standard set forth in KSR v. Teleflex, 127 S. Ct. 1727 (2007).

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103. KSR at 1742 (emphasis added).

The number of possible "solutions" posed by the Examiner's interpretation of Doshi, while not infinite, is quite large, was "identified" by the Examiner's impermissible hindsight reconstruction of the present invention by a reading of the specification, and was hardly "predictable", as evidenced by Doshi's own failure of increasing hydrohead by deposition of nanofibers in varying basis weights.

Accordingly, Applicant respectfully submits that the Doshi disclosure itself not only fails to support the Examiner's contentions as to the obviousness of "optimization of variables", but in some cases actually demonstrates the failures of such attempts at the "optimizations" suggested by the Examiner.

Withdrawal of the rejection under 35 U.S.C. §103(a) is requested on all these bases.

Rejection under 35 U.S.C. §103(a) over Doshi in view of Emig

Claims 7-9 stand rejected under 35 U.S.C. §103(a) as obvious over Doshi in view of Emig (U.S. Patent No. 6,706,086). Applicant traverses this basis for rejection and respectfully requests reconsideration and withdrawal thereof.

The failings of Doshi have been discussed in detail above. They are reiterated here.

Emig discloses a vacuum cleaner bag which incorporates a highly porous backing material ply. Most of the Emig disclosure is directed to making a suitable backing material from mixtures of cellulose and fusible synthetic fibers and subsequently wet-laying the mixture (col. 3, lines 36-46). At column 6, lines 35 et seq., Emig discloses an additional nonwoven ply which can be used as the filter material in the vacuum cleaner bag. The filter material is disclosed to be a nanofiber nonwoven having a basis weight of 0.05 to 2 g/m^2 (col. 6, lines 35-38). Subsequently, Emig discloses a laundry-list of polymers which he asserts can be spun into nanofiber webs, including polyethene and polypropylene (col. 6, lines 57-58).

However, Emig fails to disclose or suggest composite webs having a combination of high air permeability and high hydrohead, as set forth herein. Nothing in Emig would cure the underlying deficiencies of the Doshi disclosure, as discussed above.

Emig seeks to maximize the air permeability of his vacuum cleaner bags, and is silent as to liquid barrier properties such as hydrohead.

> [T]he invention is based on the objective of providing a dust filter bag which whilst permitting high system suction/blower capacity, is sufficiently rugged for use in vacuum cleaners and which is simple and cost-effective to manufacture...(col. 2, lines 4-8; emphasis added).

There would be no reason for the skilled artisan to select polyethylene and polypropylene from among the many polymers disclosed by Emig; a list of 31 distinct polymers, and many times that when considering Emig's disclosure of using co-polymers and/or mixtures of those polymers, especially since neither Emig nor Doshi expresses concern about increasing hydrohead. As discussed above, both Emig and Doshi are directed to filters, and are non-analogous to barrier fabrics.

Accordingly, there is nothing in Emig which would suggest how to modify Doshi in a manner so as to increase the hydrohead of the Doshi composites. The Examiner's argument to the contrary is merely an impermissible hindsight reconstruction of the present invention, based upon a reading of the present specification. Withdrawal of the rejection is requested.

Rejection under 35 U.S.C. §103(a) over Doshi in view of Benson et al.

Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as obvious over Doshi in view of Benson et al. (U.S. Patent No.6,746,517). Applicant traverses this basis for rejection and respectfully requests reconsideration and withdrawal thereof.

The failings of Doshi have been discussed in detail above. They are reiterated here.

The Examiner relies on Benson et al. for its disclosure of coating fibers with a hydrophobic coating. However, nothing in Benson et al. would cure the underlying deficiencies of Doshi. Similar to Doshi, Benson et al. is directed to filter materials, and therefore not concerned with increasing hydrohead, which is irrelevant to filtration.

Further, where cited by the Examiner (col. 12, lines 47-67), Benson does not teach coating a nanofiber web with a hydrophobic coating, but instead teaches mixing a hydrophobic additive into the fiber-forming polymer, prior to fiber formation. As such, even if combined in the manner suggested by the Examiner, Benson et al. and Doshi fail to teach all the limitations of claims 7-9.

Therefore, Applicant submits that even in combination, Doshi and Benson et al. cannot be deemed to make obvious the present claims. Withdrawal of the rejection is requested on this basis.

Rejection under 35 U.S.C. §103(a) over Zucker in view of Doshi

Claims 1, 4-9, 12-14, 16, 23 and 24 stand rejected under 35 U.S.C. §103(a) as obvious over Zucker in view of Doshi. Applicant traverses this basis for rejection and respectfully requests reconsideration and withdrawal thereof.

Zucker discloses nonwoven barrier fabrics with enhanced barrier to weight performance (title). The Zucker barrier fabrics are nonwoven compound fabrics comprising one or more layers of nano-denier continuous filaments and at least one layer of a strong and durable substrate, which demonstrate improved hydrostatic head properties, as measured by the hydrostatic head to barrier layer basis weight ratio (abstract and [0009]). Zucker discloses that the nanofiber layers can be made of polyolefins, such as polyethylene and polypropylene [0010] and that the substrate layer can comprise continuous filament nonwoven fabrics, staple fiber nonwoven fabrics, continuous filament or staple fiber woven textiles and films [0011], [0019]. At paragraph [0014], Zucker describes the manner of making his fabrics, suggesting that the nano-denier barrier materials are "dusted" onto the substrate layer. Importantly, Zucker states:

> The present invention allows for the production of a same weight fabric with improved barrier properties, or a lighter weight fabric that is suitable for use as a barrier fabric, particularly for medical gowns, industrial protective apparel and disposable hygiene applications. Use of the present fabric as a filtration component is also contemplated. (Emphasis added).

Failure of Prior Art to Teach All Claim Limitations

Zucker fails to disclose any particular levels of hydrohead for his improved barrier fabrics, and is entirely silent as to Frazier air permeability.

As discussed above, Doshi fails to disclose or suggest fabrics having hydroheads within the range of the present claims. Therefore,

even in combination the cited references fail to literally disclose or suggest all the claim limitations.

Lack of Inherency

The Examiner suggests that the proposed Zucker composites would inherently have the presently claimed combinations of hydrohead and Frazier air permeability, simply because Zucker proposes a combination of a polyolefin nanofiber barrier layer bonded to a support layer. Applicant respectfully traverses the Examiner's findings on these inherency issues.

Applicant submits that it is not certain that Zucker's improved barrier fabrics would meet the limitations of the present claims; and that some of Zucker's suggested combinations clearly would not: (1) a composite of a nanofiber layer with a monolithic film would have no permeability to air flow; and (2) a nanofiber/microporous film composite would have very low air permeability, not measurable in the Frazier range. Only Zucker's suggested nanofiber/fabric composites could possibly have Frazier-range air permeabilities.

However, in view of Zucker's sparse description as to hydrohead and the manner in which to achieve it, Applicant submits that it is uncertain (and therefore not "inherent") whether even Zucker's proposed combination of a dusting of nanofibers onto a spunbond nonwoven substrate would meet both the Frazier and hydrohead limitations of the present claims.

Zucker never even discloses preferred nanofiber layer basis weights, let alone the complex combination of factors discussed in the present application, which result in the novel and nonobvious products set forth in claims 1 and 14 of the present application. Zucker's mere suggestion of "dusting" a layer of polyolefin nanofibers onto a scrim is insufficient to constitute anticipation or even obviousness of the present claims. Zucker's suggestion ignores the diminution of Frazier air permeability created by increasing nanofiber basis weights, and provides

no insight as to the criticality of solids fraction of the nanofiber layer (Zucker's mention of point bonding in paragraph [0020], relied upon by the Examiner as a manner of modifying solids fraction at page 8 of the Office Action, is directed to processing of the substrate, not to the nanofiber layer), nor how solids fraction can be modified, nor the significance of the pore size/fiber size of the underlying support layer. The Examiner's suggestion that the skilled artisan might be able to derive from Zucker a combination of fabric layers which would fall within the scope of the present claims is not sufficient to establish inherency, as inherency must be certain.

> The fact that a certain result or characteristic may [optimally] occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534; 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); In re Oelrich, 666 F.2d 578,.581-82, 212 USPQ 323, 326 (CCPA 1981). In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Levy, 17 USPQ2d 1461, 1464 (BPAI 1990) (emphasis in original). **MPEP 2112**.

Applicant's discussion of the multiple, interrelated factors in designing a barrier fabric meeting the limits of claims 1 and 14, as well as the data set forth in the present application as to Examples 1-9 and Table 4 (pp. 20-21) and Examples 10 and 11 and Table 5 (pp. 21-22), demonstrate that not just any combination of a nanofiber layer and a support layer will be sufficient to meet the claim limitations of the present application.

> The *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ at 433.

Applicant reproduces below the data in Table 4 (page 21) of the present specification, grouping together examples having similar basis weights of nanofibers, for easy comparison of their respective barrier performances.

Example #	Fiber load (gsm)	Frazier (m^3/m^2-min)	Hydrohead (cmwc)
5	1.5	3.2	26
8	1.5	3.8	105
2	2.5	1.6	79
4	4.8	0.6	86
1	5	0.4	222
7	6.0	0.7	118
3	11	0.24	37
9	12.8	0.3	128

The data, rearranged as to increasing basis weight, reveals that while Frazier can be generally predicted to decrease with increasing basis weight, no such trend is demonstrated as to hydrohead (see also, Doshi at page 4, bottom, quoted herein). As discussed in Applicant's previous response, hydrohead is affected by a complex relationship between a number of different variables, and as such, cannot be predicted upon basis weight alone. Thus, merely depositing a "dusting" of nanofibers onto a fabric substrate, especially a spunbond substrate, as suggested by Zucker, would not guarantee a composite fabric meeting the limitations of the present claims.

Even increasing the nanofiber layer basis weight from a "dusting" to the levels suggested in Doshi would not guarantee such a result. Doshi discloses a nanofiber/meltblown composite having a nanofiber basis weight of 8 g/m^2 (Table 1). The data above indicate that even changing the fiber polymer to a hydrophobic polymer (styrene-butadiene) as in the present application and increasing basis weight to as high as 12.8 g/m^2 would not guarantee a hydrohead of above 145 cm, as claimed herein.

Applicant respectfully submits that the data demonstrate that a combination of the teachings of Zucker and Doshi would not be certain to

result in fabrics having the presently claimed limitations, and therefore the Examiner's argument of inherency is without merit. Withdrawal of the rejection is requested on this basis.

Failure of Routine Experimentation Arguments

Finally as to Zucker, the Examiner acknowledges that Zucker is deficient in failing to disclose particular basis weights, hydroheads and Frazier values, but asserts that such limitations would be

> ...readily obtainable through routine experimentation with variables such as fiber material, fiber diameter, basis weight, solids fraction, maximum pore size, and because it is understood by one of ordinary skill in the art that discovering an optimum value of a result effective variable involves only routine skill in the art. (Office Action, page 7, first full paragraph; emphasis added).

Applicant traverses the Examiner's finding and submits that the relationship, expressed mathematically in claim 14, between fiber diameters, basis weights, solids fractions, hydrohead and Frazier air permeability is Applicant's own work. Examiner's finding of same to be merely the result of "routine experimentation" or "optimization of results" is an impermissible hindsight reconstruction of the invention, based upon a reading of the present application, and not upon the teachings of the cited references.

In this regard, the Examiner's attention is re-directed to Doshi at page 4 (bottom), which states:

> Air permeability of the fabrics' decreases with the incorporation of nanofibers, and the decrease is more in the case of spunbonded composites due to the greater amount of nanofibers. For the meltblown webs, the air permeability is low compared to the spunbonded web due to the dense web structure and small fibers. Fabric resistance to the water penetration was not decreased as was expected with the incorporation of a nanofiber web...the trend observed in hydrohead is not consistent with the decrease in air permeability. (Emphasis added).

This portion of Doshi certainly does not lend credence to the Examiner's contentions that the skilled artisan would know to further experiment with higher basis weights of nanofibers to increase hydrohead: Quite the opposite. Notably, this portion of Doshi is in direct conflict with the Examiner's findings expressed at page 9 (bottom) bridging to page 10 of the Office Action, to wit:

> Doshi discloses that air permeability decreases with the incorporation of nanofibers, therefore, it would be expected that the hydrohead...would increase with the incorporation of nanofibers.

Again, Doshi specifically refutes this proposition.

Likewise, Zucker fails to provide adequate motivation to experiment with and "optimize" all the variables suggested by the Examiner. Zucker merely suggests depositing a "dusting" of nanofibers onto a substrate.

> [P]rior art fails to provide the requisite "reasonable expectation" of success where it teaches merely to pursue a "general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it." Medichem, *Id.* (emphasis added).

For example, the Examiner argues that Zucker suggests modifications of basis weights of the fabrics (Office Action, page 6, first full paragraph) referring to Zucker at [0001], [0014] and [0029]. However, a close review of those paragraphs of Zucker reveals that he is referring to total fabric basis weight, and not to varying the basis weight of the nanofiber "dusting" layer. Repeating the applicable quotation of paragraph [0014] from above,

> The present invention allows for the production of a same weight fabric with improved barrier properties, or a lighter weight fabric that is suitable for use as a barrier fabric... (emphasis added).

Zucker seeks to either maintain the overall fabric weight the same, while improving hydrohead, or to reduce the overall fabric weight, while maintaining existing barrier properties (see also [0036] and [0038]). He does so by "dusting" a layer of nanofibers onto a substrate. Nowhere does Zucker disclose or even suggest a starting basis weight for his nanofiber "dusting" layer, let alone that increasing the basis weight would benefit hydrohead. In paragraph [0001], Zucker speaks to "improved ratio barrier-to-basis weight performance" of "nonwoven compound fabrics", i.e. again, the overall fabric, not merely the nanofiber layer. In paragraph [0029], Zucker is describing a "secondary barrier material" which can be a meltblown layer or the like, which is deposited onto the nanofiber layer.

Accordingly, the Examiner's contention that Zucker (even in combination with Doshi) supports the concept that optimization of the above-recited variables is well-known in the art to achieve any particular balance of barrier properties, let alone those in the present claims, is unwarranted, and again an impermissible hindsight reconstruction of the invention based upon Applicant's disclosure.

Applicant re-directs the Examiner to the Bryner Declaration at sections 9.3 and 9.4, discussing the failings of the assertions of "routine optimization", as well as the arguments presented above as to the deficiencies of the "routine experimentation" proposition for obviousness.

Withdrawal of the rejection is requested on this basis.

Rejection under 35 U.S.C. §103(a) over Zucker in view of Doshi and Benson et al.

Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as obvious over Zucker in view of Doshi and further in view of Benson et al. (U.S. Patent No. 6,746,517). Applicant traverses this basis for rejection and respectfully requests reconsideration and withdrawal thereof.

As clearly set forth above, Zucker fails to anticipate or make obvious the hydrohead and Frazier limitations of the presently claimed invention. Doshi provides no reasonable suggestions for curing the

deficiencies of Zucker, and in large part actually teaches away from the supposed "cures" that the Examiner implies; i.e. increasing the basis weight of a nanofiber layer to increase hydrohead.

The Examiner relies on Benson et al. for its disclosure of coating fibers with a hydrophobic coating. Applicant reiterates his position in traverse of the application of Benson et al., as set forth above.

Nothing in Benson et al. would cure the underlying deficiencies of Zucker, or Zucker in combination with Doshi.

Therefore, Applicant submits that even in combination, Zucker, Doshi and Benson et al. cannot be deemed to make obvious the present claims. Withdrawal of the rejection is requested on this basis.

Summary of Art Rejections

The prior art references, neither alone nor in combination, disclose nor suggest each and every claim limitation. The Examiner's rejections attempt to avoid this requirement for a proper rejection by variously asserting the "inherency" of such limitations in the prior art, or the obviousness of same by "routine optimization of results effective variables". Applicant has rebutted those contentions, both here and in the Bryner Declaration, and submits that the Examiner's assertions are not supported in the prior art, but are merely impermissible hindsight reconstructions of the claimed invention, obtained through a reading of the present specification.

Withdrawal of the rejections is requested on this basis.

Unexpected Results

In the alternative, Applicant submits that the data in the present specification, more specifically set forth in the Bryner Declaration at section 10, demonstrates unexpected results over the closest prior art examples of Doshi. As such, any and all rejections under 35 U.S.C. §103(a) relying on Doshi are rebutted by the evidence of unexpected

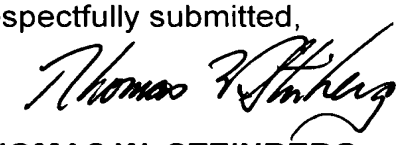
results. Withdrawal of the rejections and allowance of all claims is requested.

Long Felt Need/Failure of Others

At paragraph 11 of the Bryner Declaration, Dr. Bryner declares that to the best of his knowledge there was no fabric meeting the limitations of the present claims at the time of filing of this application; and that even now, in spite of much research into the area of nanofiber composite fabrics due to their desirability in commerce, others have failed in producing such highly effective and breathable barrier fabrics as set forth in the claims. Withdrawal of the rejections and allowance of all claims is requested.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



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Attachment: Declaration of Michael A. Bryner